ALBERTA WATER COUNCIL

Review of Implementation Progress of
Water for Life, 2005 – 2006

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Executive Summary

The year 2007 marks the end of the short-term timelines established under the ten-year implementation plan for the ***Water for Life*** strategy. This review by the Alberta Water Council assesses the strategic actions commenced over the past three years.

Water for Life represents a truly innovative and visionary approach to water management. As stated in our previous report:

> Alberta has an opportunity to transform its water management challenges into world class solutions. The strategy envisions policies and resources far beyond *ad hoc* decisions and incremental change. ... Success will depend on focus, innovation, balanced social values and a growing appreciation of the value of water as a scarce resource. The Alberta Water Council views the ***Water for Life*** strategy as a shared responsibility and a high priority for the province and its citizens.

The Government of Alberta is unique in its commitment to complete such a complex, evolutionary and comprehensive strategy.

The Alberta Water Council believes the ***Water for Life*** strategy creates the possibility for a new water ethic in Alberta—one based on conservation, sound science and shared responsibility for watershed management planning. Under this strategy, Albertans can create an enduring legacy that ensures a healthy and sustainable water supply for the environment, for our communities and for our economic well-being.

The structure of the ***Water for Life*** strategy is based on a strong interrelationship between three outcomes:

- A safe, secure supply of drinking water
- Healthy aquatic ecosystems
- Reliable, quality water supplies for a sustainable economy;

and three key directions in water management practices that are intended to drive and achieve these outcomes:

- Knowledge and research — Albertans will have the knowledge needed to achieve safe drinking water, efficient water use and healthy watersheds.
- Partnerships — Citizens and stakeholders will have opportunities to actively participate in watershed management on a provincial, regional and community basis.
- Conservation — Albertans will be leaders in conservation by using water efficiently and effectively.

Efforts to achieve the outcomes must reflect their interdependency. Accordingly, it is important that progress in all areas be consistent and coordinated.

It is the mandate of the Alberta Water Council to steward and encourage progress under the strategy and to provide a regular review of its progress and effectiveness. This report confirms that progress has occurred in all three of the outcomes and all three of the directions. Work on the strategy is well underway.

The Alberta Water Council observations are framed within the following perspectives:

- The ***Water for Life*** strategy has momentum. None of the actions discussed in this review would be underway without its strategic umbrella and direction.
- This is not solely a government initiative. Success depends on a meaningful commitment toward the development and implementation of watershed management planning by watershed planning and stewardship groups, industry, municipalities, First Nations, Métis settlements, and a range of environmental and stakeholder organizations.
- The strategy has proven to be complex, challenging and world class because it takes a new approach to managing Alberta's water resources. The original short-term targets, set in 2003, have been affected by the high pace of development in the province and by the realities inherent in executing ambitious plans.
- Given the evolutionary nature of the strategy, it is entirely appropriate to reassess the actions at this time. This is an opportunity to use current strengths to remediate weaknesses, reset priorities and define new initiatives to address current water management challenges.

The actions of the first three years have established a foundation for future initiatives, and increased resources were committed in the past year. The Government of Alberta deserves recognition for this achievement. This is an opportune time to renew and resource the ***Water for Life*** strategy and commit sustained financial support to ensure its success and realize its potential as a truly visionary approach to water management.

Highlights

In assessing the progress made to date in the three strategic outcomes, we note that much of the work underway is complex and demanding in nature and that significant challenges remain.

Safe, Secure Drinking Water

In general, the Government of Alberta has made excellent progress toward the completion of the short-term actions supporting the safe drinking water outcome. The drinking water strategy is well on track. A comprehensive facility assessment has been completed, emergency protocols have been strengthened, independent audits have been conducted and regionalization projects are underway. There has also been a focus on providing information for the design, operation and maintenance of private water systems.

In the longer term, work is underway on a comprehensive "Source-to-Tap/Multi-Barrier Approach" to drinking water protection.

The next step in the strategy involves significant capital investments. There is a need to work closely with municipalities, First Nations and Métis settlements on planning, funding requirements and source protection measures.

Healthy Aquatic Ecosystems

The work underway to develop assessment and monitoring tools for aquatic ecosystems has proven to be very complex. It is intended to provide a scientific basis for future watershed planning. It will not be completed on schedule. In hindsight, the timelines for this project were too optimistic. However, now is an excellent time to renew and resource a plan for these tools because of the recent government commitment of financial support for water research. This will help the ***Water for Life***

strategy to provide scientific support for the effective management of healthy ecosystems under watershed plans.

In the meantime, there is a need to develop initiatives for the immediate protection of critically sensitive aquatic ecosystems. These initiatives are needed in the face of rapid growth throughout the province. The identification of these areas does not depend upon the longer-term development of new assessment and monitoring tools. They can be based upon existing information, resources and legislation. Many of these initiatives could engage non-governmental stakeholders in the execution of the ***Water for Life*** strategy. The Council believes Albertans would welcome a high-priority, responsible and participatory approach to protection measures.

There has been good progress in developing a wetlands policy through the Alberta Water Council. An effective policy would provide guidance for the definition of specific protection measures to support healthy aquatic ecosystems across the province. It is also important to the other two strategic outcomes. Wetlands can be an important component of healthy source supplies for private and public drinking water users. They can contribute to availability of water supplies required to support a sustainable economy.

A longer-term opportunity for ensuring healthy aquatic ecosystems also exists in the initiative by the Government of Alberta to develop a new framework for land use. There are important links between land and water. Land use planning is integral to meeting water management objectives. Specific planning policies to strengthen the strategic outcomes of the ***Water for Life*** strategy could be a key result of the initiative.

Reliable, Quality Water Supplies for a Sustainable Economy

The specific actions underway to meet the objectives of ensuring reliable, quality water supplies for a sustainable economy are generally on track. Some good foundation pieces are in place. They include preliminary work on automated assessments of water availability and demands, the analysis of costs associated with supplying and storing water to meet demand, the authorization of water allocation transfers and the effective management of transboundary waters. The Alberta Water Council believes, however, that the intent of this outcome should focus on new and innovative tools for managing supply and demand. At this time, the actions underway tend to enhance existing mechanisms rather than develop such new capabilities.

In the context of a finite water supply, there is an opportunity to develop a renewed focus encouraging cutting-edge information systems, effective reallocation practices, short-term water markets, strategic infrastructure planning and holistic water management practices. Non-governmental stakeholders should be encouraged to become actively involved in such initiatives.

Overall, the Alberta Water Council believes that the potential of this outcome should be to strive for world class capabilities in water management tools and techniques in the context of a clearly stated vision of supply limitations.

The actions taken to achieve the three strategic outcomes are supported by three key directions in Alberta water management practices:

Knowledge and Research

There has been excellent progress in this direction. A research strategy has been defined and approved. The Alberta Water Research Institute has been formed, under Alberta Ingenuity, to implement the strategy. The Government of Alberta has allocated $30-million in funding for water research. The advisory boards of the Institute will provide a governance structure to involve a broad range of stakeholders in addressing research needs.

There is an opportunity to meet the specific needs and gaps related to research and knowledge under the other five strategic elements of the ***Water for Life*** strategy. This direction has become a key strength of the strategy. Alberta is in a position to achieve world class capabilities.

Partnerships

Good progress has been made in developing partnership capabilities to support participatory watershed planning in the province. The Alberta Water Council is entering its third year of operation, seven Watershed Planning and Advisory Councils have been formed and the Government of Alberta has provided funding to local Watershed Stewardship Groups. The support given to fulfilling the capacity and output of these three levels of partnership has been encouraging. The short-term targets, however, were very aggressive and are being redefined. Developing true and meaningful partnerships takes time and a commitment to a desired set of shared outcomes. Given the complexities, this initiative has made good progress.

Partnerships are innovative governance models for watershed planning. The Alberta Water Council believes that the initial enthusiasm shown by stakeholders to participate indicates that their potential could go far beyond the basic principles outlined in the ***Water for Life*** strategy. The challenge is to maintain volunteer commitment through the actual capability of these groups to lead and influence planning. Watershed Planning and Advisory Councils, in particular, require sustained funding to support their activities.

The Alberta Water Council also notes the importance of meeting the planning challenges created by the heavy allocations in the South Saskatchewan River Basin. The ***South Saskatchewan River Basin Water Management Plan*** has set major restrictions on the expanded use of water in the Oldman and Bow River basins. The Council believes that this underscores the need to develop cooperative methods of preserving river flows, to develop effective planning tools and financial support for the Watershed Planning and Advisory Councils, and to clearly understand future supply capabilities and demand dynamics.

Conservation

After a challenging start in the first year, this direction now has momentum. Progress is being made in monitoring actual water use, understanding the value of water for economic and social purposes, exploring the use of economic incentives to enhance the wise use of water, and improving public awareness and knowledge about the importance of conservation.

Many of these initiatives are complex and involve change in public expectations and behaviour. The Alberta Water Council believes that it may be appropriate for the Government of Alberta to facilitate change through specific policy compelling the wise use of water.

The Alberta Water Council believes that, in the long term, the wise use of water, through the effective management of demand, is a critical component in the development of a true conservation ethic in the province.

Conclusion and Common Themes

This review covers the first three years of the ten-year implementation program planned for the ***Water for Life*** strategy. Progress has been shown in all of the short-term actions defined in the strategy. There is momentum in most areas. In general, the strategy is on track.

The foundation for specific strategic commitments and programs in water management is being established. Given the pace of economic activity in Alberta, this is an ideal time to renew and resource the ***Water for Life*** strategy. The dynamics of the strategy require renewed vision, leadership and funding. Our concluding observations arise from a number of common themes in this regard.

Governance and Management

There is an opportunity to review the appropriate structure for the long-term implementation of the ***Water for Life*** strategy. This could include a specific and senior leadership responsibility to manage, drive and be accountable for the vision and all elements of the strategy.

Funding

An overall plan to provide significant and sustainable funding for the ***Water for Life*** strategy is required. We have two suggestions:

- An annual review by the Treasury Board Secretariat of all initiatives to confirm that funding is coordinated, prioritized and meets the needs of the strategy; and
- The establishment of a ***Water for Life*** endowment fund. The income from such a fund could be allocated to the requirements of partnerships such as the operating budgets for the Alberta Water Council, Watershed Planning and Advisory Councils and the Alberta Stewardship Network, which represents and provides support to community Watershed Stewardship Groups. It could also provide funding for projects undertaken by non-governmental stakeholders in support of ***Water for Life*** actions and outcomes.

Increasing Public Awareness

It is critical to foster an understanding of water topics and issues and to provide opportunities for Albertans to develop a stewardship ethic for the resource. Public awareness and the understanding that it creates can provide a driver for other elements of the strategy.

A comprehensive approach to promoting public awareness of water management issues would be a timely addition. Public awareness could include modules aligned to the six elements of the ***Water for Life*** strategy.

Background

Water for Life: Alberta's Strategy for Sustainability is a dynamic and comprehensive long-term plan for the achievement of three strategic outcomes in water management:

- A safe, secure supply of drinking water for future generations.
- The establishment, maintenance and protection of healthy aquatic ecosystems.
- The availability of reliable, quality water supplies for a sustainable economy.

The actions taken to achieve these strategic outcomes will be driven by three key directions in Alberta water management practices:

- Knowledge and Research: Initiatives will be based on sound science and facts.
- Partnerships: Most solutions to water issues will arise from the effective management of individual watersheds. They are best defined through collaboration with specific stakeholders and the public. Input is required on a provincial, regional and community basis.
- Conservation: Usage, preservation and storage practices must be improved through conservation efforts and an increased efficiency and productivity in water use and management.

Water for Life is a balanced and interdependent strategy. Each outcome depends upon the successful achievement of the others, and each of the directions must drive all three outcomes. It is important that progress in all areas be consistent and coordinated.

The ***Water for Life*** strategy represents a truly innovative and visionary approach to water management. As stated in our previous report:

> Alberta has an opportunity to transform its water management challenges into world class solutions. The strategy envisions policies and resources far beyond *ad hoc* decisions and incremental change. Success will depend on focus, innovation, balanced social values and a growing appreciation of the value of water as a scarce resource. The Alberta Water Council views ***Water for Life*** as a shared responsibility and a high priority for the province and its citizens.

Alberta is unique in its commitment to complete such a complex and evolutionary strategy.

The Alberta Water Council believes that there is a strong underlying vision associated with ***Water for Life***. The strategy is creating a new water ethic for the province. The demand for water will be reduced as Albertans become conscious of limiting consumptive uses and using innovative management methods. The maintenance of healthy watersheds will be based upon sound science and be ultimately valued by the public. The limits of a watershed's capacity will be better understood and respected. Truly participatory watershed planning will complement and encourage sustainable economic development. Safe drinking water will be available and assured across the province.

There is an opportunity to build on the progress achieved in the first three years of the strategy and create an enduring legacy that ensures a healthy and sustainable water supply for Alberta's environment, communities and economic well-being.

Introduction

A major role of the Alberta Water Council is to steward the successful implementation of the ***Water for Life*** strategy. This responsibility includes an annual review of the implementation progress and effectiveness.

The strategy contains an implementation plan outlining a series of proposed actions to support the outcomes. These are staged over a ten-year period.

The first Alberta Water Council review, issued in October 2005, covered the first year of implementation and was general and conceptual in nature. Its purpose was to provide Albertans with a perspective on the purpose and scope of the ***Water for Life*** strategy and to comment on its initial progress. The report emphasized the interdependence among the six strategic elements. Progress was noted under all elements of the strategy, and a strong start in year one was commended.

March 2007 marks the end of the short-term timelines originally established under the ***Water for Life*** strategy. This review assesses implementation progress up to this date.

Through the Council's review of the strategic actions, several themes emerged:

- The ***Water for Life*** strategy has momentum. None of the actions discussed in this review would be underway today without its strategic umbrella and direction.
- This is not solely a government initiative. Success depends on the meaningful commitment and involvement of watershed planning and stewardship groups, industry, municipalities, First Nations, Métis settlements, and a range of stakeholder and environmental organizations.
- The strategy has proven to be complex, challenging and world class. The original short-term targets, set in 2003, were a snapshot in time that reflected the priorities of the day. They have been affected by the subsequent high pace of development in the province and by the realities inherent in executing ambitious plans.
- Gaps and timeline lapses are therefore inevitable within the scope of an ambitious plan. This review notes inconsistent progress under some of the short-term actions of the strategy. Given the evolutionary nature of the strategy, it is entirely appropriate to reassess the actions at this time. This provides an opportunity to reset priorities, use current successes to remediate weaknesses and to define new initiatives to address current water management challenges.
- The experiences of the first three years establish a foundation for future success. However, the challenges that accompany them have also shown that the successful execution of the ***Water for Life*** strategy will depend on a renewed commitment for sustained financial support. Otherwise momentum will be lost unless this is present.

A review of the progress under each outcome and direction follows. Comments for each strategic element are organized as follows:

- The specific short-term actions, as defined in the ***Water for Life*** strategy, are reviewed and assessed.
- Progress is reviewed within the perspective of the medium- and long-term targets of ***Water for Life***.
- Observations and opportunities are discussed with a focus on those actions that can energize the momentum of the ***Water for Life*** strategy and promote the involvement and commitment of a broader range of stakeholders in its execution and success.

The review concludes with a discussion of common themes and opportunities to improve the governance, funding and public awareness of the strategy.

Outcomes

Safe, Secure Drinking Water Supply

Commitment: Albertans will be assured that their drinking water is safe.

Short-Term Target: Alberta has a comprehensive strategy to protect Albertans' drinking water.

Medium-Term Target: Albertans have full and complete knowledge of drinking water issues and real-time access to information about the drinking water quality in their community.

Long-Term Target: Alberta's drinking water infrastructure meets emerging standards and is managed for long-term sustainability.

Introduction

Standards and programs governing municipal water supplies in Alberta were relatively robust and mature before the release of the ***Water for Life*** strategy. Alberta leads the country in its standards and operating performance. However, the ***Water for Life*** strategy's focus on drinking water recognized that a structured review and long-term development program were necessary to ensure both the continuation and evolution of existing standards and the development of capabilities to meet the long-term requirements, safety and expectations of a growing population. The intent is to provide long-term assurance to Albertans that they can all rely on access to safe drinking water supplies.

The short-term actions under this outcome are intended to provide the tools and capabilities to enable such a comprehensive drinking water strategy to be defined and implemented.

Review of Short-Term Actions

1. ***Complete an assessment of all drinking water facilities in the province.***

   An assessment of all drinking water facilities in Alberta has now been completed. This was an extensive undertaking and has generated both short-term, site-specific recommendations as well as roadmaps for 10- and 25-year water supply developments. Regional hubs are a major focus and a key part of the solutions being proposed. They will require significant investment. The Government of Alberta has shown a commitment to the identified infrastructure upgrading requirements by providing a $200-million capital commitment over the next two fiscal years. These funds are to be directed to those drinking water facilities identified in the assessment and to wastewater management needs in the province.

   The initial review is complete and funding has been committed. Future enhancements to drinking water capabilities can utilize the assessment findings to assist in planning and priority setting.

2. ***Establish an independent, ongoing review process, on a five-year cycle, for Alberta's drinking water program.***

   An independent review of Alberta's drinking water program has been completed, and its recommendations are being followed up. In addition, the Office of the Auditor General of Alberta has completed a comprehensive review of Alberta Environment's drinking water program. These due diligence initiatives are to be commended. The intent is to conduct an independent review every five years. The next review is due in 2011.

3. ***Establish emergency protocols, including support by staff and laboratory capacity, to protect Albertans from contaminants in drinking water.***

   The purpose of this action is to provide enhanced prevention and response capabilities for drinking water contamination.

   Work on this initiative commenced in March 2005. Alberta Environment has assigned drinking water specialists in each region. Funding is being allocated to regional health authorities to develop and implement an audit tool for public and private drinking water systems throughout the province that are not subject to Alberta Environment approval. The Government of Alberta has asked for proposals to establish "expertise pools" to assist municipalities in emergency situations. Provincial laboratory capacity is scheduled for expansion.

   Good progress is being made under this action. The overall scope of the program needs to be completed. We note that this initiative will also provide increased resources for owners of private systems for testing their water supplies.

4. ***Establish municipal grant criteria to support the development of regional water systems.***

   Regional drinking water systems can be cost effective and provide high operating standards and efficiency. They can optimize the supply from available drinking water sources. They are viewed as an important component of Alberta's *Water for Life* strategy to meet the outcome of safe, secure drinking water.

   A new framework for municipal grant criteria has been announced and is available on the Alberta Infrastructure and Transportation website. Pipelines to new municipal customers will receive 90 percent funding, and upgrades to hub suppliers for the new customers will receive 100 percent funding. The government has demonstrated a commitment to capital funding in this area, as announced in the 2006 Throne Speech with $100-million being committed in each of the 2007/08 and 2008/09 fiscal years for such projects.

5. ***Alberta – First Nations Drinking Water Partnership***

   Although not a defined action under the *Water for Life* strategy, Alberta Environment, Alberta International, Intergovernmental and Aboriginal Relations, and Indian and Northern Affairs Canada are leading an initiative to develop an agreement with the Chiefs of the Treaty 6, 7 and 8 First Nations. Key areas for collaboration are facility operational capacity and training, participation in regional systems, and the operation and maintenance of private systems. Consultation and dialogue are underway with the goal of a partnership that will realize "alignment without regulation" in the operation and infrastructure development of drinking water facilities. This initiative is to be commended and encouraged.

Medium- and Long-Term Perspective

The Government of Alberta has made excellent progress toward the completion of the short-term actions supporting the safe drinking water outcome. These efforts will also provide the information and resources to support the strategy in the longer term.

This commitment and support are also reflected in the preliminary efforts underway on the medium- and long-term actions. The evolution of the drinking water strategy is well on track.

Online reporting of all drinking water facility test sample results has been initiated. Alberta Health and Wellness has made a manual available to private users outlining the design, operation and maintenance procedures for private water systems.

The major medium-term action supporting safe drinking water is the implementation of a "Source-to-Tap/Multi-Barrier Approach" (STMBA) to drinking water safety. Historically in Alberta, the drinking water program philosophy has focused on the "multi-barrier" aspects (i.e., treatment infrastructure) and less on the "source" (i.e., source water protection) component of the Source-to-Tap continuum. We would encourage the STMBA philosophy, when fully complete and implemented, to ensure inclusion of the entire spectrum of opportunities.

Observations and Opportunities

This outcome of the ***Water for Life*** strategy could be one of the true legacy achievements of the Government of Alberta if achieved in its entirety.

The actions outlined above provide the basis for a comprehensive drinking water strategy for Alberta. These actions will support strategic initiatives such as regional treatment and delivery facilities, ongoing and effective monitoring of operations and water quality, a functioning STMBA program across the province and emergency response capabilities. This strategy is far-sighted and will help address the demands of population growth in Alberta.

The next stage involves using the capabilities that have been developed to date as the basis to plan future infrastructure and operational needs for the province. This is a chance to involve municipalities, First Nations and Métis settlements in the process and to strengthen their commitment to ***Water for Life***.

Opportunities for future planning include the following:

- Establish a formal process to follow up on the requirements of specific facilities, their shortcomings and future funding allocations.
- Conduct a review of the magnitude and timing of potential regional initiatives so that future requirements are clearly understood.
- Work with municipalities on the identification and protection of drinking water sources.
- Develop funding initiatives that are applicable to regional programs and the specific long-term maintenance of emergency response, source protection and on-line reporting systems.

Commitment: Albertans will be assured the province's ecosystems are maintained and protected.

Short-Term Target: Efforts to protect aquatic ecosystems in critical areas are underway.

Medium-Term Target: Water management objectives and priorities for sustaining aquatic ecosystems are established through watershed plans.

Long-Term Target: Water is managed and allocated to sustain aquatic ecosystems and ensure their contribution to Alberta's natural capital and quality of life are maintained.

Healthy Aquatic Ecosystems

Introduction

The *Water for Life* strategy recognizes that future limits on water availability should be based on the preservation of a healthy aquatic environment. This requires an objective, science-based understanding of aquatic ecosystems, their current status, and what they need to maintain or improve their health. In turn, this information will be used to set management objectives, under watershed plans, for effective habitat protection and restoration.

The short-term actions under this outcome are intended to provide initial assessments of the environmental health of Alberta's watersheds and to develop appropriate tools for the ongoing understanding and monitoring of healthy aquatic ecosystems.

Review of Short-Term Actions

1. ***Establish science-based methods to determine the ecological requirements of healthy aquatic ecosystems.***

   Efforts underway include the assessment of Alberta's surface water quality, development of a system for monitoring and assessing aquatic ecosystems, an assessment of the current status of these ecosystems, and an update of initiatives to support watershed protection and planning.

   This work includes a provincial synthesis of water and sediment quality, a consolidation of fisheries and non-fish biota information, the collection of riparian health inventory information, and assessments of water quantity and instream flow information. These components will be integrated into assessment and reporting tools.

   There has been variable success in each component, and this action will not be completed within the short

term. It does not appear that the resources are available to complete all components concurrently. Until all the information and data are available, it will not be possible to establish Alberta-specific methods for determining the ecosystem requirements.

2. ***Develop systems for monitoring and assessing healthy aquatic ecosystems.***

   This is a complex action that is behind schedule. Efforts underway include the review of techniques used in other jurisdictions, the development of standardized approaches for monitoring, assessment and reporting and the initial collection of existing information. The complexity arises from the range of variables to be assessed. They include indicators of water quality, hydrology, riparian and wetland health, biology and land use activities. The goal is to develop monitoring programs at all levels of water management in the province.

   This is a central component of the planning process and of adaptive management approaches. More capacity needs to be directed to the development and enhancement of monitoring programs. An immediate and urgent concern is the lengthy time frame required to develop these systems.

3. ***Develop a wetland policy and supporting action plan.***

   Some selected wetlands inventories have been completed. The Alberta Water Council's Wetland Policy Project Team is preparing a draft wetland policy and corresponding implementation plan. Government, industry, First Nations and environmental non-governmental organizations have been involved in drafting these documents. Development of this policy is on target. This action can have a direct impact on the health of aquatic ecosystems. It can also contribute to the other two strategic outcomes under the ***Water for Life*** strategy. It can contribute to the protection of private and public drinking water sources and improve the availability of water supplies required to support a sustainable economy.

Medium- and Long-Term Perspective

The medium-term actions for this outcome depend directly on the timely completion of the initial assessments and the development of ongoing assessment tools. In the context of watershed planning, the setting of objectives for aquatic ecosystems is a critical requirement. The danger is that environmental planning tools will not be ready by the time they are required by Watershed Planning and Advisory Councils and other planning bodies.

Observations and Opportunities

The Council is struck by the complexity involved in developing the support tools for future decision making. The short-term actions for this element have received attention, but in hindsight, the timelines set for them were too ambitious. It is apparent that the research and monitoring work will take time to generate meaningful data and assessment tools.

In November 2006, the Government of Alberta allocated $30-million in funding for water research. The purposes for which the research funding is available include meeting the strategic knowledge and research needs of the ***Water for Life*** strategy. This presents a timely and exciting opportunity for reassessing the development of the research and monitoring projects required to assess aquatic environments. It is appropriate to now redefine the needs and set a plan, with realistic timelines, to coordinate, prioritize and resource the work to be completed.

In the meantime, there is a need to focus attention on the immediate protection of critically sensitive aquatic ecosystems. This was the specific short-term objective for this outcome of the ***Water for Life*** strategy. It does not depend solely on the rigorous science being developed under the assessment and monitoring tools discussed above. There is existing knowledge upon which sound decisions can be based.

There has been progress toward this goal through the work underway on a wetland policy and the setting of conservation objectives under the ***South Saskatchewan River Basin Water Management Plan*** (see the Partnerships direction). However, the ***Water for Life*** strategy was largely defined in 2003. Since that time, there have been major increases in the pace of Alberta growth and development, many of which are accompanied by environmental pressures.

An immediate opportunity exists to define a protection framework that utilizes existing information, resources and legislation to protect sensitive areas. Initiatives could involve non-governmental stakeholders, which could further emphasize their direct stake in the success of the ***Water for Life*** strategy. Examples include the following:

- Critically sensitive areas could be identified at this time through the North American Waterfowl Management Plan information on wetlands, available research on provincial Class A watercourses, systems available through Alberta Environment such as a desktop instream flow needs tool, maps of sensitive flood plain and riparian areas, and Prairie Farm Rehabilitation Administration groundwater surveys.
- Initiatives, many involving municipalities, First Nations, Metis settlements, non-governmental organizations and industry, could include the following examples that were suggested to Council members during the review process:
  - The immediate setting of specific Water Conservation Objectives under the range of water management plans currently being defined in Alberta.
  - Riparian and source protection initiatives involving landowners and environmental groups.
  - Source protection, flood control and emergency response planning involving municipalities, First Nations, Métis settlements and industry.
  - The identification, in coordination with municipalities, First Nations and Métis settlements, of groundwater source points in need of protection.
  - The use of conservation easements to protect critical riparian habitat.
  - Use of traditional knowledge from First Nations and Métis settlements to support water stewardship ethic and conservation initiatives.
  - The endorsement of the recommendation under the ***South Saskatchewan River Basin Water Management Plan*** to amend the Water Act to enable private organizations to hold water conservation objective licences. This has the potential to enhance instream flow protection to specific areas of watersheds throughout the province.

The Alberta Water Council believes that Albertans would welcome a high-priority, responsible and participatory approach to protection measures.

A longer-term opportunity for coordinated protection exists through the work currently underway by the Government of Alberta to develop a new framework for land use. It is anticipated that this initiative will balance the economic, environmental and social uses of land. Watersheds have been likened to Russian stacking dolls that have interconnected smaller components contained inside the larger whole. From a water perspective, integrated planning could assist with source water protection, watershed planning, and an understanding of the cumulative impacts of development on surface and groundwater resources. Specific planning policies to strengthen the strategic outcomes of the ***Water for Life*** strategy could be a key result of the initiative.

Commitment: Albertans will be assured their water is managed effectively to support economic development.

Short-Term Target: A broad range of water management tools and techniques are implemented.

Medium-Term Target: Water management objectives and priorities to support sustainable economic development are established through watershed plans.

Long-Term Target: Water is managed and allocated to support sustainable economic development and the strategic priorities of the province.

Reliable, Quality Water Supplies for a Sustainable Economy

Introduction

To ensure continuation of a high quality of life for all Albertans, a reliable supply of water must be available to support sustainable economic activity. This outcome recognizes that the future management of the resource must go beyond traditional regulatory and management mechanisms.

The short-term actions under this outcome are intended to develop an understanding of the dynamics of future supply and demand, to understand the true costs associated with supplying and storing water to meet demand, and to facilitate the effective reallocation of water to the most beneficial purposes.

Review of Short-Term Actions

1. ***Determine the full cost of providing water through Alberta's water management infrastructure.***

   This initiative is on track. Alberta Environment has completed a cost accounting study of government-owned water infrastructure. An additional study for drinking water treatment facilities and irrigation districts works is underway. These studies are intended to provide basic information on understanding the relationship between the cost of providing water and the value received from its use. In addition, a full understanding of costs will help with the planning of long-term resources for future requirements.

2. ***Authorize water allocation transfers within all watersheds.***

   This action is receiving careful attention. Transfers have been authorized in the South Saskatchewan River Basin since 2002. Phase 2 of the ***South Saskatchewan River Basin Water Management Plan***, approved in 2006, continues this authorization. Transfers in other basins will depend

on progress in defining water management plans and submitting them for approval by the Government of Alberta. Although they are unlikely to be completed within the short-term timelines, work is currently underway on four plans.

3. *Develop and implement transboundary agreements in cooperation with neighbouring jurisdictions.*

   This action is well managed. Several management and research projects with the Northwest Territories, Saskatchewan and British Columbia are underway. Work is being done to develop bilateral agreements between Alberta and British Columbia and between Alberta and the Northwest Territories regarding the Mackenzie River.

   Transboundary agreements have a major impact on Alberta water management practices. The Government of Alberta recognizes that, in order to meet its commitments under all of these agreements, usage and storage within the province must be monitored on a real-time basis. This information will, in turn, enhance the ability to manage future demands within the province.

   The Government of Alberta's obligations on eastward-flowing streams and on international streams are being met.

4. *Continue to manage water resources on the "first-in-time, first-in-right" principle, and in accordance with the Water Act.*

   Efforts under this action are focused on improving the support tools upon which licences, approvals and enforcement are administered under the Water Act.

   Alberta Environment has undertaken to develop an automated decision support system for temporary diversion licences under the Water Act. The preliminary feasibility assessment study has been completed. The intent is to develop a prototype by March 2007 to test how the issue of temporary diversion licences could be accomplished automatically. If successful, this system would allow staff to quickly assess applications and shift from the traditional approach of issuing licences for specific sites to managing the water needs of an entire basin. The project could lead to the availability of completely automated hydrological assessments of water availability. This project is intended to become an integral part of an automated support system for the licensing process across the province.

   In addition, Alberta Environment is considering a web-based system for collecting and communicating province-wide data on water supply and usage. Some of this data can be used to calculate the water available for a specific location and time.

   These are valuable projects because they have the potential to allow information to be readily available for a range of timely management decisions. The ultimate goal involves extensive data collection on water availability and usage. The Government of Alberta is still in the early stages of this capability. Full implementation is likely to be technologically challenging.

5. *Evaluate, as part of the watershed planning process, water management infrastructure needs.*

   This project is on track for short-term completion. An inventory list of potential water storage sites in Alberta has been completed. In the coming year, criteria for ranking the sites will be developed. A demand and supply study will also be conducted to provide support for prioritization criteria.

Medium- and Long-Term Perspective

The medium- and long-term actions for this outcome are based on effective reallocation and storage. They are very general in nature. The recent ***South Saskatchewan River Basin Water Management Plan*** has emphasized the constraints of limited supply. This may become a common theme in other watersheds. Demand management and conservation measures across the province should be based on a clear understanding of future supply capabilities. There is a need to define a clear vision and understanding of long-term supply capabilities in Alberta.

Observations and Opportunities

The short-term specific actions underway are generally on track. Some good foundation pieces have been put in place. In our view, however, the scope of the actions falls short of the potential strategic intent of this outcome. At this time, actions tend to enhance existing mechanisms rather than develop new and innovative tools and capabilities for managing supply and demand.

The recent approval of the ***South Saskatchewan River Basin Water Management Plan*** restricted the issue of any new diversion licences in the basin because of the heavy allocation of existing supplies. In a growing economy, this has emphasized the realities of a finite water supply. It underscores the need to energize work within this strategic element.

Possibilities for a change of focus could include:

- The Government of Alberta has committed significant research funding to support the knowledge and research needs of the ***Water for Life*** strategy. This could provide the resources to support full development of the information systems required to provide automated assessments of water availability and demand.
- A goal of reallocation is to encourage the transfer of water to the most beneficial purposes. This is necessarily a discretionary process involving an assessment of the risks of changing water use and diversion locations. This is referred to as the "no harm principle" and guidelines for decision making under it will be contained in water management plans. Accordingly, in the future, if transfers are to be effective, water should be appropriately available in the areas it is most needed. Should the government choose to adopt this principle as part of the ***Water for Life*** strategy, it could base future infrastructure and storage planning upon the capacity to properly facilitate transfers within this principle.
- A second component of reallocation involves the use of temporary assignments for the seasonal transfer of water allocations. They provide a device to allow water to be transferred to more beneficial uses for short-term periods. Should the goal of reallocation be adopted, there is an opportunity to explore trading mechanisms and market regulation to facilitate this activity.
- By working with Watershed Planning and Advisory Councils, industry, municipalities, First Nations and Métis settlements, the government could promote a more holistic approach to water management among users. This could involve sharing and voluntary restrictions in critical periods, the management of storage flows for environmental purposes, and the use of appropriate Water Act provisions and amendments to maximize water availability.

Overall, the Alberta Water Council believes the potential of this outcome should be to strive for world class capabilities in water management tools and techniques in the context of a clearly stated vision of supply limitations.

Directions

Commitment: Albertans will have the knowledge needed to achieve safe drinking water, efficient water use and healthy watersheds.

Short-Term Target: Comprehensive water research and education programs are established

Medium-Term Target: Mechanisms are in place to transfer water-related knowledge to Albertans.

Long-Term Target: Albertans have the knowledge, tools and motivation to implement actions that will maintain or improve the province's water resources.

Knowledge and Research

Introduction

The ***Water for Life*** strategy clearly identifies that information and knowledge of our provincial water resource are the most critical elements of our ability to manage water effectively. General knowledge is no longer an adequate base for management. We must understand the dynamics of such factors as surface and groundwater, climate change, the impacts of a growing economy on water quality and emerging technologies to improve the water system. There are three components to this direction:

1. The scientific knowledge of Alberta's water resource
2. An understanding of emerging water issues and opportunities
3. The provision of the knowledge and tools necessary to make effective management decisions

The short-term actions are intended to provide a framework for the acquisition of information and the capability to use it. The strategy also identifies specific research and information needs, many of which in turn have been assigned as specific actions under the appropriate elements.

Review of Short-Term Actions

1. ***Develop a provincial water research plan.***

   This action is complete, and the research plan is now funded. The Alberta Water Research Strategy was completed by the Alberta Science and Research Authority and approved by the Government of Alberta in February 2006. The strategy identified research areas and discussed the importance of developing good links between knowledge brokerage and research functions. In November 2006, the Government of Alberta allocated $30-million in funding for water research.

   A Water Management Knowledge Broker Function Project Team, identified as a key strategy to develop the water research system, was established by the Alberta Water Council.

   Implementation of the Alberta Water Research Strategy will generate mechanisms to increase understanding of Alberta's water resources and to better manage these resources. The Alberta Water Council will now work on a brokerage function that effectively makes knowledge and research products available for strategic initiatives.

2. ***Establish a provincial, multi-disciplinary water research centre.***

   The Government of Alberta has set a high priority on this action. The Alberta Water Research Institute has been established in partnership with Alberta Ingenuity. A multi-stakeholder Management Advisory Board and an International Research Advisory Committee will advise the Institute. The Alberta Water Research Strategy will then be implemented through the Institute. The goals of the research strategy are to:

   - Provide science-based information, analysis and technologies to inform and support effective water management in Alberta; and
   - Develop a water research system focused on meeting the strategic knowledge and research needs of the *Water for Life* strategy.

   This initiative has potential to coordinate research, set priorities and access the expertise required for specific projects. It has been specifically structured to involve a range of non-governmental stakeholders in its governance.

3. ***Establish a public awareness and education program to ensure Albertans have easy access to water resource information and services.***

   Several programs have been developed and are ongoing. The second Alberta Water Quality Awareness Day, designed to heighten awareness and stewardship of Alberta's water resources, attracted over 2,700 people. The Government of Alberta and industry also met with residents in 13 Alberta communities to discuss coalbed methane and groundwater concerns. More than 1,200 people attended these meetings.

   The Government of Alberta has shown some commitment to public education and outreach projects. We believe the public is also looking to industry and non-governmental organizations to provide education and outreach on key water issues. This action has not yet resulted in a comprehensive and sustained program.

4. ***Complete an assessment of Alberta's surface water quality.***

   This action requires a renewed focus. Water quality is assessed under the existing monitoring programs of the Government of Alberta and its partners. Under the ***Water for Life*** strategy, the first year of study focused on network rationalization. Additional parameters and monitoring stations are being added as issues emerge, such as pharmaceuticals in drinking water.

   The current focus is on ambient monitoring; this needs to be expanded to include anthropogenic influences. There is also potential to raise the monitoring to a strategic level. It could be connected to performance measurements and progress indicators that help establish and monitor water management goals, such as water conservation. Watershed Planning and Advisory Councils could provide input on their requirements for these assessments.

Medium- and Long-Term Perspective

It is notable that some of the medium- and long-term actions are being developed ahead of schedule. This is a recognition of the importance and potential of this direction.

The Alberta Water Information Centre is under development, and a data warehouse is complete. Significant funding has been committed.

The Government of Alberta recognized the need to develop sophisticated measures on flood forecast and warning systems. To this end, 36 communities have been studied for flood risks, and 37 flood risk maps are available online.

Work is underway to obtain information about the quantity of all surface water in the province. Two key mapping projects are being completed.

Pressure to manage the groundwater resource continues to increase and a focus on this area was recommended in our previous review. Two key groundwater mapping projects are underway. There has been a major focus on protection during coalbed methane production. The Government of Alberta Energy Innovation Fund recently committed $3-million for groundwater mapping and assessment.

Observations and Opportunities

There has been a significant commitment of over $30-million to the knowledge and research direction under the ***Water for Life*** strategy. The government is to be commended for this support. There is now a framework in place for developing and distributing knowledge of our water resource. Alberta is in a position to achieve world class capabilities.

It is important to note that the development of many of the research needs arising under the strategy is extremely complex and long term. The need to have the necessary knowledge and research in place is increasing. The significant funding of the research strategy and creation of the Alberta Water Research Institute allows immediate focus on the specific needs and gaps arising from the various actions underway in the ***Water for Life*** outcomes and key directions. The advisory boards of the Institute will provide a structure to involve a broad range of stakeholders in addressing these needs.

The knowledge and research direction has become a key strength of the ***Water for Life*** strategy.

Commitment: Citizens and stakeholders will have opportunities to actively participate in watershed management on a provincial, regional and community basis.

Short-Term Target: Provincial partnerships for watershed management and stewardship are established.

Medium-Term Target: Community watershed partnerships are established and operating.

Long-Term Target: Communities are demonstrating leadership in watershed management.

Partnerships for Watershed Management and Stewardship

Introduction

The focus of ***Water for Life*** is to adopt a watershed approach to water management. This allows attention to be placed upon the specific issues and dynamics of a geographic region. This direction recognizes that the most effective solutions can be defined by those who are immediately affected by the range of issues affecting their area. The purpose is to develop capacity for effective input from three types of partnerships:

1. The Alberta Water Council to oversee the overall implementation of the ***Water for Life*** strategy.
2. Watershed Planning and Advisory Councils to involve communities and stakeholders in the management of all major provincial watersheds. The goal is to evolve toward a Watershed Planning and Advisory Council-led planning process.
3. Watershed Stewardship Groups to provide planning input and programs for local watersheds throughout the province.

The short-term actions are directed toward an ambitious and comprehensive development of capacity and output from these three stakeholder groups.

Review of Short-Term Actions

1. ***Complete a partnership framework, outlining the roles, responsibilities and relationships between government and its partners.***

   The partnership framework, whereby the relationships between the Government of Alberta and its partners are outlined, is complete. Work is now underway to further define the mandate, capacity, authority and accountability of the partners, under a revised shared governance framework. This will be reviewed and updated in 2007 by the Alberta Water Council working with Watershed Planning and Advisory Councils and the government. This foundation piece is critical to the success of partnerships and planning.

2. ***Establish the Alberta Water Council.***

   The Alberta Water Council was established in August 2004. A 2006-09 Business Plan and 2006-07 Operating Plan have been completed. The Alberta Water Council has stewarded the *Water for Life* strategy and made preliminary progress on outlining a process to define water conservation, productivity and efficiency. The Council is now working on substantive advisory and policy projects. In 2007, the Council plans to incorporate as a not-for-profit society and operate at arm's length from the government.

3. ***Establish Watershed Planning and Advisory Councils for the Milk, Oldman, Bow, Red Deer, Battle, North Saskatchewan, Cold Lake-Beaver River and Lesser Slave Lake watersheds.***

   This action is focused and on track. Seven Watershed Planning and Advisory Councils have now been established for: the Bow, the North Saskatchewan, the Battle, the Oldman, the Red Deer, the Lesser Slave and the Milk rivers. The council for the Cold Lake-Beaver River is expected to be established in 2007. Work is also underway for a Watershed Planning and Advisory Council on the Lower Athabasca. The establishment of the remaining councils will encourage the involvement of First Nations and Metis settlements in the implementation of the *Water for Life* strategy. For example, 50 percent of the area of the province and 23 Treaty 8 First Nations lie within these watersheds.

   There have been growing pains in the development of Watershed Planning and Advisory Councils and their roles and capabilities. The mandate review currently underway is intended to address this.

4. ***Establish water conservation objectives for the South Saskatchewan River Basin.***

   This action has been completed. Specific instream flow objectives have been established for the major rivers within the South Saskatchewan River Basin. They were approved by the Government of Alberta in 2006 under Phase 2 of the Water Management Plan for the basin. The plan recognizes that southern rivers are heavily allocated and there is a need to protect deteriorating aquatic environments. The plan places major restrictions on the expanded use of water in the basin. Under the plan, reallocation among users is strongly encouraged through a licence transfer system.

It should be noted that, because of the heavy allocation in the basin, the water conservation objectives set by the plan are subject to the rights of prior licence holders. Accordingly, the objectives will not provide additional flow preservation for environmental protection within most areas of the basin. They may prevent further deterioration in some areas.

In the South Saskatchewan River Basin, it is thus important to continue with a strong program of alternative measures to restore and protect instream flow. This may include cooperative measures between users, maximum conservation holdbacks under future licence transfers, the licencing of private users for instream preservation purposes in specific stream reaches and the management of storage facilities for flow purposes.

Water conservation objectives are an important tool to utilize in those basins of Alberta that are not yet fully allocated. This is an ideal time to set them under other watershed management plans. Future standards of instream flow preservation will therefore form the basis upon which future allocations to users in these basins can be set.

The Alberta Water Council believes the ***South Saskatchewan River Basin Water Management Plan*** underscores the challenges of future watershed planning in the province. Under the restrictions set by the plan, it is critical that Watershed Planning and Advisory Councils have the tools for future planning in the basin; that future supply capabilities and demand dynamics are clearly understood; and that conservation, efficiency and productivity targets are set and met. Innovative and cooperative water management tools will be required. The South Saskatchewan River Basin will, in many ways, become the test basin for the ***Water for Life*** strategy.

5. ***Complete watershed management plans for the South Saskatchewan, Battle, Cold Lake- Beaver River and Lesser Slave Lake watersheds.***

   The ***South Saskatchewan River Basin Water Management Plan*** has been approved by the Government of Alberta. The other plans are being completed but are likely a year or more behind schedule. It is to be noted that all these plans are water management plans and not comprehensive watershed management plans. They represent initial management steps until the Watershed Planning and Advisory Councils develop the full capacity to establish comprehensive watershed plans.

   It is important to recognize that the completion of watershed plans will evolve over time. The initial short-term targets were very aggressive and are being redefined. Given the complexities, the Government of Alberta is to be commended for its commitment to the planning led by the Watershed Planning and Advisory Councils.

   This area underscores the need for the coordinated management of the actions of all the ***Water for Life*** outcomes and key directions

Medium- and Long-Term Perspective

There is momentum and work underway to complete the targeted establishment of the remaining Watershed Planning and Advisory Councils and watershed plans.

The capabilities currently being built in partnerships will lead to sophisticated watershed planning across the province. The Government of Alberta is also a partner in this process. It will be important for the government to be aware of gaps between the structural existence of partners and their capabilities to steward and implement the ***Water for Life*** strategy.

Observations and Opportunities

Partnership is an ambitious and important area. It represents a significant change in policy development and implementation. Success will involve a substantial level of support by the government and commitment by stakeholder groups. The short-term progress, under this direction, is encouraging.

The scope and importance of partnership capability is shown by the anticipated structure and role of Watershed Planning and Advisory Councils. They are intended to be collaborative, community-based, volunteer-led organizations that take responsibility for the long-term planning within a watershed. Their most important roles will be:

- Monitoring and reporting on the state of the watershed
- Establishing water conservation and water quality objectives for specific areas
- Creating and promoting an open dialogue around water within the watershed
- Reaching out to engage stakeholder groups to engage them and enlist their input.

At full capacity, each council could possibly comprise several hundred members, an elected board, and dedicated staff who deliver membership services and support active, volunteer-based committees. Strong volunteer support will be the key to success. The involvement of member organizations in initiatives could provide the potential to lever core funding by a factor of three to five times.

This is an innovative governance model for policy development and stewardship. It is also very ambitious. The initial enthusiasm being shown by stakeholders to participate in councils indicates that their role and potential could go far beyond the basic principles outlined in the *Water for Life* strategy.

Volunteer commitment will depend upon the ongoing capacity of the councils to lead planning. There is a need for the Government of Alberta to provide sustainable support for the resources the councils require. A model for sustained funding needs to be defined.

The involvement of First Nations and Métis settlements in all of the partnerships, through their role as stewards of their lands, is recognized and welcomed. Their meaningful involvement is important to watershed planning.

Commitment: Albertans will be leaders in conservation by using water efficiently and effectively.

Short-Term Target: Albertans understand the value of water to its economy and quality of life.

Medium-Term Target: All sectors are demonstrating best management practices and improving efficiency and productivity associated with water use.

Long-Term Target: The overall efficiency and productivity of water use in Alberta has improved by 30 percent from 2005 levels by 2015 (firm targets to be determined by the Alberta Water Council).

Water Conservation

Introduction

This key direction in water management anticipates major shifts in how we value, use and allocate an increasingly scarce resource. Improvements in water use involve three factors:

1. Conservation (reduced use, loss or waste, or preservation for uses that benefit people or the environment);
2. Efficiency (using the minimum amount of water feasible for specific applications) and;
3. Productivity (productive use in relation to the value of the activity being undertaken).

The cumulative impact of these factors can result in major reductions in the amount of water required to meet the needs and values of a growing population and economy.

The short-term actions for conservation are intended to provide a better understanding of how much water we use, what we use it for, its economic value, its environmental value and its importance to our quality of life from a social perspective. As the strategy evolves, this information will provide a base for the following:

- Best management practices
- An assurance that all uses of water are valued and are included in decision making
- A public awareness of the importance of conservation
- Ongoing measurement and improvements

The overall objective is to achieve a 30 percent improvement in the cumulative conservation, efficiency and productivity of water use in the province between 2005 and 2015.

Review of Short-Term Actions

1. ***Establish a system to monitor and report actual water use by all sectors on an ongoing basis.***

   An electronic water use reporting system became operational in 2006. The system allows licence holders to report their water use information electronically. Selected licence holders have been asked to input their water use voluntarily into the system. These licence holders represent the majority of large water users. Participation was not as robust as hoped; only about 30 percent of requested data was received. Analysis of the information submitted to date will be undertaken in 2007 to determine where problems were encountered by licence holders using the system and to facilitate greater participation in the system.

   This system is a good start. It is important to quickly improve participation. This information will determine the baselines against which future improvements in conservation, efficiency and productivity will be measured.

2. ***Determine and report on the true value of water in relation to the provincial economy.***

   Phase I of the multi-phase "Value of Water to the Alberta Economy" study has been completed. The project was led by Alberta Employment, Immigration and Industry with guidance from a cross-ministry steering committee (including Environment Canada).

   Phase I valued surface water (in recognition of its multiple uses—environmental, economic, and social) in the South Saskatchewan River Basin. Following a comprehensive review of the results of Phase I by the steering committee, Phase II, which involves expanding the project to the rest of the province, will proceed.

   From a conservation perspective, promoting the full value of water can encourage a greater conservation ethic if Albertans realize water is not a "free" and "unlimited" resource, and that it has value beyond our daily and economic needs (e.g., water has intrinsic values such as for scenic enjoyment).

   This is a complex and valuable exercise that can serve as a template for all Watershed Planning and Advisory Councils in the province that are considering undertaking similar studies to determine the full value water has in their watershed. The results will provide information for better decision making for watershed planning objectives, allocation, and efficiency and productivity improvements.

3. ***Complete an evaluation and make recommendations on the merit of economic instruments to meet water conservation and productivity objectives.***

   This action is a major initiative. Significant progress has been made in the past year.

   Alberta Environment has assembled a cross-ministry team with representation from Alberta Agriculture and Food to undertake a preliminary assessment of economic instruments currently in use in Alberta, such as water allocation transfers and wetland compensation. A work plan has been defined for 2007, and the team will undertake a more in-depth analysis (strengths, weaknesses, opportunities, threats) on potential economic instruments in 2007 that may be used to enhance conservation, efficiency and productivity. Options include water pricing, rebates and incentives and/or penalties.

The Alberta Water Council established a Water Conservation, Efficiency and Productivity Project Team to address three areas: 1) define the terms conservation, efficiency and productivity; 2) determine baseline water conservation, efficiency and productivity information, and gaps by sector; and 3) determine appropriate methodologies for reporting progress on conservation, efficiency and productivity.

The team has defined the terms; set principles to guide improvements in conservation, efficiency and productivity; and identified reporting methods.

The intent is for these efforts to address many of the gaps identified in last year's review.

The Water Conservation and Economics Task Group of the Canadian Council of Ministers of the Environment completed three reports on conservation measures, economic instruments and performance indicators for selected sectors. For 2007, a framework for a pilot study will be developed that uses several performance indicators to measure water conservation and efficiency in selected industries.

4. ***Establish a public education and awareness program on water conservation in Alberta.***

Alberta Environment's water conservation website is live and is updated regularly. The Ministry has also developed an educational framework that supports Water for Life education and public awareness.

The delivery of specific water conservation awareness campaign is behind schedule. The Alberta Water Council believes there would be benefit in involving other stakeholders in the process.

Medium- and Long-Term Perspective

The medium-term actions are largely dependent on the availability of results from the short-term actions. Watershed Planning and Advisory Councils require the information and recommendations in order to set appropriate objectives under watershed plans. There is strong potential for sectors using water to plan their operations around the expectations arising from the short-term recommendations.

The expectations of improvements resulting from this new direction are high. We believe that broad stakeholder involvement and a strong resolve to evolve from a consumption to a conservation ethic are necessary.

Observations and Opportunities

There has been strong progress on this direction after a slow start in the first year. Because of its broad scope, this direction will not be on track in the short term. However, it does have good momentum and complex initiatives are being pursued.

It is important to recognize that there will be challenges in implementing new conservation, efficiency and productivity objectives; best management practices; and appropriate economic instruments. They involve changes in public expectations and behaviour. As a matter of public policy, it may be appropriate to facilitate change through specific policy. We believe that the Government of Alberta can develop regulated conservation, efficiency and productivity activities through such measures as compulsory conservation plans by licence holders, amended building codes and riparian protection standards.

This direction is a strong driver of the underlying vision of *Water for Life*. The Alberta Water Council believes that, in the long term, the wise use of water, through the effective management of demand, is a critical component in the development of a true conservation ethic in the province.

Conclusion and Common Themes

This review covers the first three years of the ten-year implementation program planned for the ***Water for Life*** strategy. Progress has been achieved in all of the short-term actions defined in the strategy. There is momentum in most areas. In general, the ***Water for Life*** strategy is on track. The foundation for specific strategic commitments and programs in water management is coming into place.

Water for Life is an ambitious and complex strategy. Successful implementation will necessarily be difficult, require an investment of resources and require a long-term commitment by all partners. To place this in context:

- Thirteen ministries and boards of the provincial government and numerous stakeholders have shared responsibility for its success. The stakeholders include Watershed Planning and Advisory Councils, industry, environmental non-governmental organizations, First Nations, Métis settlements, stewardship groups, federal government departments and the Alberta Water Council. All these stakeholders must be engaged and have the capacity, focus and willingness to contribute.
- There is a high degree of interdependence among the capacities being developed through the various actions that are taking place. Therefore, these actions require coordination and timely completion. There is always a danger that ***ad hoc*** programs and incremental change will occur rather than the comprehensive solutions available under a cohesive strategy.
- The strategy takes water management practices in the province to a new and world class level. The availability of science-based decision making tools, the effective use of stakeholder partnerships in watershed planning, and the development of a conservation and productivity ethic in the use of water will only develop from a substantive resolve and a clear vision of the stated strategic outcomes.
- Financial support is currently fragmented between the annual budgets of the various provincial departments involved in the actions. Long-term priority initiatives require coordinated and sustainable funding.

The pace of growth in Alberta is unprecedented. There is a need to manage such diverse factors as population growth, economic changes and climate change. The ***Water for Life*** strategy, being evolutionary in nature, must be adapted to changing times. This is an ideal time to renew and resource the ***Water for Life*** strategy. The dynamics of the strategy now require renewed vision, leadership and funding. In this review, the Council noted a number of common themes in this regard.

1. Governance and Management

The ***Water for Life*** strategy recognizes that comprehensive watershed planning goes beyond the traditional direct management practices for the resource. It also involves land use practices, economic development policies and the development of stakeholder involvement. An integrated approach is required. This is a visionary strategy and actions should be directed accordingly. At this stage of implementation, progress under many of the actions runs the risk of becoming inconsistent and somewhat fragmented. There is now a need for strong overall direction and vision.

There is an opportunity to review the appropriate structure for the long-term implementation of the ***Water for Life*** strategy. This could include a specific and senior leadership responsibility to manage, drive and be accountable for the vision and all elements of the strategy.

2. *Funding*

There are two components to the ***Water for Life*** strategy financial requirements.

Many of the strategic actions are clearly the responsibility of individual government ministries and require appropriate funds under their annual budgets. Accordingly, a range of departmental priorities are competing for funds with the priorities specifically applicable to the ***Water for Life*** strategy.

The second component relates to the responsibility that has been given to non-governmental stakeholders under the ***Water for Life*** strategy. Organizations such as the Watershed Planning and Advisory Councils require the assurance of sustained funding if they are to develop and provide leadership for watershed planning.

An overall plan to provide significant and sustainable funding for the ***Water for Life*** strategy is required. We have two suggestions:

(i) The Treasury Board Secretariat should undertake an annual review of all ***Water for Life*** initiatives for which the Government of Alberta is responsible and confirm that funding is coordinated, prioritized and meets the needs of the strategy.

(ii) Consideration should be given to the establishment of a ***Water for Life*** endowment fund. Income from such a fund could be allocated to those stakeholders requiring sustained long-term funding for their success. This would include the operating budgets for the Alberta Water Council, Watershed Planning and Advisory Councils and the Alberta Stewardship Network, which represents and provides support to community Watershed Stewardship Groups. The fund could also be used to provide funding for projects undertaken by non-governmental stakeholders in support of the ***Water for Life*** strategy actions and outcomes.

3. *Increasing Public Awareness*

The ***Water for Life*** strategy cannot be implemented in isolation from public awareness of the issues. It is critical to foster an understanding of water topics and issues and to provide opportunities for Albertans to develop a stewardship ethic for the resource. This will not occur through incremental and isolated education programs. Public awareness and the understanding that it creates can provide a driver for other elements of the strategy, including leadership, funding and accountability.

A comprehensive approach to promoting public awareness of water management issues would be a timely addition. This approach could include modules aligned to the three goals and three key directions of the ***Water for Life*** strategy. It could include basic principles of ecology; the relationship between water and economic development; guidelines of drinking water safety; conservation, productivity and efficiency initiatives; the dynamics of watershed management; and outlines of the knowledge gained from research initiatives.

Notes

Notes

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